



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1459
Alexandria, Virginia 22313-1459
www.uspto.gov

APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
10/003,879	03/27/2002	Gunter Friedrich Schmidt	SCHMIDT, G	7491

7590 05/28/2004

COLLARD & ROE, P.C.
1077 Northern Boulevard
Roslyn, NY 11576

EXAMINER

FISCHER, JUSTIN R

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Application No.	Applicant(s)	
10/083,879	SCHMIDT, GUNTER FRIEDRICH	
Examiner	Art Unit	
Justin R Fischer	1733	

Office Action Summary

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 07162002
- 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of an apparatus for manufacturing a nonwoven in the response dated 02/19/2004 is acknowledged. The traversal is on the ground(s) that the present invention is directed to a unitary concept, namely a process and an apparatus for making a nonwoven, wherein a simultaneous search for all of the groups is not believed to constitute an unreasonable search for the examiner. This is not found persuasive because, as set forth in the previous paper, the method as claimed can be practiced by a materially different apparatus such as one in which the doffer units are not staggered vertically in relation to the carding machine. Furthermore, the apparatus of the claimed invention could be used to practice a materially different method such as one in which the doffer units are operated at the same speeds. Thus, it is clear that the respective groups are directed to different inventions, each having a unique and separate means for establishing patentability.

The requirement is still deemed proper and is therefore made FINAL.

Information Disclosure Statement

2. The information disclosure statement filed May 28, 2002 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information

Art Unit: 1733

referred to therein has not been considered. In particular, there is no translation or statement of relevancy for the document entitled "Vliesstoffe".

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 17 recites the limitation "the guiding belt of the web redirecting" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. In this instance, claim 11, from which claim 17 depends, only generically describes a web redirecting device- there is no mention of a guiding belt. It is suggested that claim 17 be amended to define the web redirecting device as having a guiding belt as opposed to referring to it as the guiding belt. Alternatively, the guiding belt can be introduced in claim 11 to provide proper antecedent basis for the language in claim 17.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frosch (US 4,858,276) in view of Coates (US 3,523,059). As best depicted in Figure 1, Frosch discloses an apparatus for manufacturing a nonwoven having a

carding machine 10 and a pair of staggered doffer units 19, 19', wherein the carded webs 24, 24' can be combined to form a compound fleece. Using this apparatus, the fibers in each of the carded webs are aligned substantially in the longitudinal direction. As is known in the nonwoven industry, it is desired to provide a nonwoven fabric in which the fibers are aligned along the machine direction and the cross machine direction in order to provide a fabric having high tensile strength and dimensional stability. Coates provides one example that recognizes the desire to include the fiber orientation noted above (Column 1, Lines 50-55 and Column 2, Lines 15-21)- in these instances, a web laying device is included in order to form a layer in which the fibers are aligned in the cross machine direction as is well known. As such, one of ordinary skill in the art at the time of the invention would have found it obvious to include a web laying device in the apparatus of Frosch in order to form one of the two carded webs 24, 24' as a zigzag or lapped layer (layer in which fibers are aligned in the cross machine direction) prior to them being bonded or combined, thereby forming a nonwoven fabric that demonstrates high tensile strength and diemnsional stability.

It is recognized that the zigzag or lapped layer would be deposited on a conveyor (analogous to "another device" of claimed invention) and conveyed downstream to a point where it would contact the straight layer (fibers aligned in longitudinal direction). Figure 3 of Coates clearly depicts the arrangement of such an apparatus as the zigzag or lapped layer 50 is deposited on the conveyor 62 and transferred downstream to a point where it contacts the straight layer 70. It is noted that the fabric of Figure 3 is not

Art Unit: 1733

required to contain a bottom layer 68 such that the zigzag or lapped layer would be directly deposited on the conveyor.

As to the speeds of the respective doffer units, the claims are directed to an apparatus for manufacturing a nonwoven. The respective speeds of the doffer units do not alter the structure of the apparatus but rather deal with the method or the manner in which they are operated or programmed. The doffer units of Frosch have the ability to be operated in the claimed manner- one of ordinary skill in the art at the time of the invention would have been motivated to vary the speeds of the respective doffer units in order to obtain a desired fabric weight and arrangement (e.g. modify weight per unit area of web).

Additionally, the claim requires a device for bonding the web to form a nonwoven. As noted above, Frosch suggests the respective carded layers can be combined to form a nonwoven. While no specific device is mentioned, it is recognized that some device, such as rollers or a heating assembly, would be included in the apparatus of Frosch to form the nonwoven. It is emphasized that the claim only broadly requires "a device" to form the nonwoven.

Lastly, regarding claim 16, it is well known to form the zigzag or lapped layer using a guiding belt, as is shown for example by Figure 3 of Coates. In this instance, the speed of the belt and the speed of the conveyor are cooperatively adjusted to control the angle of said zigzag or lapped layer (Column 4, Lines 40-45).

7. Claims 11-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frosch and Coates as applied to claim 10 above and further in view of either one

Art Unit: 1733

of Grievés (US 3,879,820), Thomas (US 4,170,676), or Bacchio (US 5,623,748). As noted above, Frosch in view of Coates teach an apparatus for manufacturing a nonwoven comprising a carding machine, a pair of doffer units, a web laying device that forms one of the doffed webs as a zigzag or lapped layer, and "another device" or conveyor that directs said zigzag or lapped layer to the other doffed web (contains fibers substantially aligned in machine direction). The inclusion of a zigzag or lapped layer provides a nonwoven fabric having high tensile strength and dimensional stability. As to the specific manner in which the zigzag or lapped layer is formed, there are a wide number of assemblies that are commonly employed, such as the combination of web redirecting devices that redirect a carded web and a series of guide belts. One of ordinary skill in the art at the time of the invention would have found it obvious to include a web redirecting device in the apparatus of Frosch as it represents a well known component that provides the desired arrangement for a given carded layer. Grievés (Figures 1A and 1B), Thomas (Figures 1 and 4), and Bacchio (Figure 1) each show the deposition of a carded layer onto a conveyor using a combination of web redirecting devices (rods that change direction of carded layer) and guide belts. These references, individually or in combination, evidence the common use of web redirecting devices and guide belts in the manufacture of nonwoven fabrics. One of ordinary skill in the art at the time of the invention would have readily appreciated and expected the inclusion of such components in the apparatus of Frosch.

With respect to claims 12-14, as noted above, the respective speeds of the doffer units do not alter structure of the claimed apparatus. The web redirecting device can be

Art Unit: 1733

used in the processing of either the straight carded layer or the zigzag or lapped carded layer, wherein either of these layers can be the "faster partial web" or the "slower partial web". It is emphasized that apparatus of Frosch in view of either Grieves, Thomas, or Bacchio would contain the claimed structural components, particularly a carding machine, a pair of doffer units, a web laying device, a web redirecting device, and "another device" to convey the zigzag layer.

Regarding claim 15, the web redirecting devices of Grieves, Thomas, and Bacchio contain a series of endless guide belts and web redirecting rods that properly convey and deposit a carded layer onto a conveyor.

As to claim 17, Grieves, Thomas, and Bacchio recognize the use of a variety of redirecting means, including redirecting rods and belts, in the manufacture of a nonwoven. Furthermore, the inclusion of turning rolls would have been obvious to one of ordinary skill in the art at the time of the invention since they represent a well known form of directing and positioning a web in a variety of assemblies. The specific directing or positioning means would be dependent on the arrangement of the additional components that make up the apparatus of Frosch and the desired orientation of the given web or layer in relation to the conveyor and the additional layers.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Jourde (US 6,195,844), Bacchio (EP 1,046,731), and Lasenga (US 4,910,830) disclose an apparatus for manufacturing a nonwoven comprising a carding machine and a pair of doffer units.

Frolov (US 3,867,741) is similarly directed to an apparatus for manufacturing a nonwoven comprising a carding machine and a pair of doffer units- in this instance, though, Frolov expressly teaches that the respective doffer units are rotated at different angular speeds in opposing directions in order to achieve a uniform structure and uniform thickness in the longitudinal and lateral directions.

Cavedon (US 2,237,049) is directed to an apparatus for manufacturing a nonwoven comprising a pair of carding machines and a pair of doffer units, wherein a second carded web is transferred through a series of guide belts and deposited on a first carded web in perpendicular relation.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1733

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Justin Fischer

May 22, 2004


JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300